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For the Arizonian.

Mining Stories and Realities.

Whenever some individual wishes to create an excitement for Arizona or Sonora, he always begins ransacking and parading the old newspaper accounts about the mines of Mexico; drawing heavily on his own imagination, and filling up the intervals with sketches of farming country, that fits almost anywhere else, but in these two territories. At times the intention may be good, but the result must ever be bad to the emigrant and his family. The mining stories, too, are generally nothing but heresay affairs, that have wandered through divers generations, and finally have assumed a wonderful, and to the unacquainted, an enticing shape.—There is one thing they must all have in common, that is, the principal personage who knew always all about the mines—is dead. These stories not only here, but all over Mexico, generally fit under the following heads:

1st. Some fortunate wretch hunting cattle, or camping out, finds in the ashes of his camp-fire some white metal which he takes to be lead.—He neglects to notice it—afterwards he can't find the place again, or he dies just while hunting for it.

2d. Indians bringing in large lumps of pure silver. Indians never show metallic veins—afraid they will die. Finally some one persuades them to go by the vein and leave a sign, thereby cheating the spirit of the lower regions; but that old fellow is not so easily humbugged: he sends a rattlesnake, or some other thing, in his way, that kills him. The Indian goes to the upper hunting-ground, and the story remains.

3d. A most fruitful source, however, is found in the country surrounding the Mission of the old Jesuits. For the last three hundred years they have been accused of knowing and having worked rich mines. In the seventeenth century they were formally accused of hoarding their immense wealth in Lower California. A commission sent by his most Catholic majesty the king of Spain, reported the fathers hard at work, raising Christians, beans and squashes, and the informer as being crazy. These shrewd men are accused of having worked the San Saba mines in Texas, that have never been found. They are now said to have known the Sierra Nevada gold fields in California. Sonora and Arizona is dotted with spots where they are reported to have covered up some awful rich mines. Generally these mines are said to be closed with massive doors, but the first plank has yet to be found. There is no doubt these industrious priests often worked mines to get metal for their church bells, or to employ the idle Indians, who did not cost them more than the corn they eat, which was raised by the others of the same tribe. But the fathers of these Missions are dead and gone.

4th. Another source for these romantic writers who like to see things by the light of Aladdin's lamp, are the books and statements of Messrs. Ward and Wilson, of Mexico. The most reliable of these are undoubtedly the notes of Mr. Ward, the British Minister; but as far as regards the frontier, at least they are not based on facts either, but mostly on supposition and reports. Mr. Wilson cites Mr. Ward generally,

and the newspapers cite Mr. Wilson again and again, until the topic becomes disgusting and void of force. Such notes on mining, as those of Mr. Wilson's, are of no value at all, as they lack all consistency, and bear the stamp of the author's ignorance in such matters on the face. For instance he cites without comment, page 416, in his book "Mexico, its Peasants and its Priests," the following on Lower California: "The benefitting is no less perfectly done than the labor at the mines. There are no haciendas for benefitting. Many persons that engage themselves in mining speculations, have one, two, and even five horse mills, with which they grind the metal; this they mix with quicksilver and salt, imitating the process by the patio (amalgamation,) in proportion of 50 lbs. of the first and 75 lbs. of the second to 625 lbs. of metal, and proceeding by means of fusion in bad ovens, they obtained silver," &c. &c.

Now I can assure Mr. Wilson that the few poor mines worked by a few poor miners in Lower California, are worked precisely as those in Mexico and Peru. There is no such absurd thing as a mixed process of patio and furnace. Any man who will reflect for a moment only will perceive that quicksilver placed in a hot furnace would immediately evaporate, without producing the slightest change on the admixed ore and salt, which require an infinitely higher heat to be in any way affected at all. I suppose this is the first time that quicksilver is cited as a plan for smelting.

In another part of his work, page —, he says that the freight alone of one steam engine at the Francisco mines in Mexico amounted to over 1,000,000 of dollars. Shortly afterwards "of the various pumping machinery, just one half of their cost was caused by the freight from the sea coast to the place of erection." Now this is merely absurd. He does not state the rate of freight, but allowing in the engine case the same rate as that for the pumps, then this engine must have originally cost \$1,000,000.—Rather a gigantic affair this, and liable to cause a tremendous blowing up of any company, no matter how large or rich.

These are merely undigested statements, and only serve to throw doubt over others more probable. It is strange that Mr. Wilson, the matter of fact man, should have allowed himself to be carried away by the fabulous and most ridiculous mining stories, and to base on such foundations the future grandeur of Northern Mexico. While we agree with him in many things regarding the much exaggerated Aztec civilization, its mud monuments and barn-like architecture of the same material, the same now in use amongst the Pueblo Indians of New Mexico, we very much distrust his authority in mining matters. His pictures of Northern Mexico, where he never was, are entirely overdrawn, and erroneous.

If we wish to cite numbers and examples of rich mines, there is no necessity of going back to the fabulous ages of romance. We can find them sufficiently grand for all reasonable purposes nearer home, and nearer to our own times. Where is there a parallel to California's 500,000,000 dollars produced in only ten years? What history can show an equal to the great gold fields of Australia and Siberia? Compared to these all the silver mines in the world sink into insignificance. It is true they have produced similar sums, but it took centuries to accomplish it.

As it may be interesting to some of your readers we will give a few notes on some of the great mines of the day:

THE REAL DEL MONTE SILVER MINES.

These mines are four in number, and belong to a mixed company of Mexicans and Europeans. They are situated about 9000 feet above the level of the ocean, in the highlands of Mexico, some twenty leagues from the capital. Already last century large sums of silver were extracted from their ores. They were several

times abandoned, and again successfully reopened. Since 1830 large sums were unprofitably expended by an English company; but the present owners have, with great economy, better management, and perhaps some better luck, achieved a most brilliant triumph.

According to the report of the chief engineer, "they produced during the last five years, ending 31st December, 1857, \$11,823,803 00, leaving to the shareholders, after paying the owner's shares of profit, and providing for greatly extended new works, the sum of \$2,684,416 00. The yield in 1853 was 1,537,769 00 do in 1857 was 3,039,016 00. Showing an immense increase in the production of silver. The average yield in 1854 was \$52 per ton; production 1,811,882 00; which shows that the enormous amount of near 35,000 tons of ore had been reduced. Allowing the same average for 1857, this would give 50,000 tons of ore.

For the reduction of these ores, the three different methods:—

The Furnace—The barrel, or German amalgamation, and the American, or patio amalgamation, are applied in accordance with the nature and value of them.

The cost of smelting per furnace per ton, was \$59 94
The same quantity by the barrels, 15 59
do by the patio, 11 84
The yield of the ore used in the furnace per ton, was 345 60
Yield in the barrels, 62 24
Yield in the patio, 43 58
The different prices paid for reduction are by no means to be taken as a criterion, each class of ore was subjected to the process best adapted for it.

THE BURRA-BURRA COPPER MINE,

Situated in South Australia, lat. S. 34° 25' lon. E. 139° 4'.

From the engineer's report we extract the following:

"A retrospective view of seven years gives a production of 87,839 tons of ore, averaging about 24 per cent. of copper. The whole sub-surface capital of the company was £3,324. The whole expense in that time, £900,000. There were paid in 17 dividends to the shareholders, £303,000. This gives to each share of an original value of £5, £125. Balance still on hand for division, £86,255."

Capt. Roach reports at the 50 fathom level, a splendid lode of malachite of the richest quality; and at the 40 fathom level a beautiful lode of red oxide, 12 feet wide, which it is calculated will produce thousands of tons of ore on that level alone, to say nothing of the lower ones.

The number of men and boys, including officers, on the 30th of November, 1852, was 137, which, owing to the gold discoveries was reduced to 100 men at the end of the year.

In 1853 there were issued in all, since the formation of the company, 2465 shares. Paid in cash £5; present value, £135. Dividends paid to 3d March on each share £195. In last 7 years 37 times the paid in capital has been refunded in dividends.

THE MINNESOTA COPPER MINE, IN 1859.

This is the richest worked copper mine in the Lake Superior copper region. The stock of the company is divided into 20,000 shares, on each of which \$3.50 has been paid in. They are now worth \$120 each. In other numbers, the original investment of \$70,000 has now a value of \$2,400,000.

The net profits divided amongst the stockholders during the first 6 years, from 1852 to 1857, amounted to \$980,000, showing a reproduction of 14 times the original investment.

THE CERRO PASCO SILVER MINES,

Are situated in Eastern Peru, about 11° south of the line. These mines were discovered in 1631. According to Lieut. Herndon, U. S. Navy, the ore is quarried in monster pits, open cuts, and is very poor; but the facilities for procuring at little expense, large quantities, and their easy amalgamation, makes the working of them profitable. The principal mass of the extracted ores yield but about 16 ounces to the ton.

According to Mr. Castleman, these mines produced up to 1849, the enormous sum of \$475,000,000, which would give an annual average of \$2,170,000. The annual average is now only estimated at \$2,000,000. Cerro Pasco is situated on the Eastern slope of the Andes, at an elevation of some 13,800 feet above the sea, and have a population of about 7000 souls.

HUANCAYELLA QUICKSILVER MINE,

Is situated about 200 miles S. E. of Cerro Pasco, and according to Mr. Castleman, produced from 1751 to 1789, 1,040,452 quintals of quicksilver. Allowing \$65 as the average value per quintal, the value of the product is \$67,629,380. The expenses were \$10,587,845 during that period.

Since then this mine has produced but little, all schemes to re-open it having failed so far, but they are not considered as exhausted. Bolivar, the Dictator, refused for them in 1828 the round sum of \$600,000 or \$800,000.

THE SAN JOSE DE PARACU SILVER MINES, PERU.

This is no very great establishment, but only mentioned here to show the interior economy, as a model. There are annually reduced at this mine 750 tons of ore, with an average yield per ton, of about 128 ounces of silver. The ores, in consequence of blende, are roasted with about 87 per cent. of salt, and amalgamated by the Patio process. The annual yield is \$70,000. Expenses \$30,000. According to this, the average would only be \$93 per ton, with an expense of \$40 per ton for mining and reduction.

The hacienda for reducing the ores is managed by 1 superintendent, 3 major domos, and 40 hands, Indians.

The 4 mines belonging to this company are situated 2 leagues from the reduction works, and in charge of 1 major domo, four corporals, and 60 hands, divided into 2 gangs, working each 12 hours out of 24.

The salary of the superintendent is \$1200 per annum; major domo 30 per month; corporals \$21; miners 62½ cents per day; hands at the works receive 50c per day.

It would be highly interesting to get statistics of the great mines of Mexico, Quanaxuto and the Alison, and the great gold mines of California; also, those of the new Almaden quicksilver mines in that State; in comparison with those of Almaden in Spain, which have been worked over 2000 years. Also, notes on the rich mines of Germany and Hungary, especially those in the Ore mountains, where (I believe in the 14th century,) immense masses of virgin silver were found on the surface, similar to those discovered in the Plancha de la Plata near Arizona, in 1760. The great copper mine of Falhaun, in Sweden, are yet productive. The ore is very poor, but notwithstanding all this they produced during the greatest part of last century over 800,000 lbs of copper per annum.

Not less interesting would be statements of the iron and coal mines now worked. Any one in possession of reliable data would confer a benefit on the public by publishing them.

Arizona is particularly interested in obtaining information respecting mining operations as she is par excellence a mining country, and the mining State of the Union, as the future will show. We shall not be able to show such magic results as did the placer mines of California, but will exhibit a gradual development that will be really amazing; as soon as we have security from Indian depredations, laws, capital, and science will come to our aid, and such will be the case.

We have in Arizona mineral lodes containing ores of a far superior character than those of the above cited mines. The question is whether they can be produced in such immense quantities. The copper ores from the Santa Rita de Cobre, the Ayo, and hundreds of other veins are extremely rich; the difficulty of transportation and the want of fuel, has however, prevented their being profitably worked, so far. Nothing but a railroad will remove the difficulty. The silver ores are as far superior to those of other parts as the copper ores are. In the Heintzelman mine the rarest specimens of rich silver ores, of great variety, have been found also, specimens of cinabar and virgin silver and copper, in the same vein. The general yield of the ores there, are not surpassed by any others in the world.

Arizona has had no fair chance yet to show her wealth. It is in the depth, beneath rugged mountains. All our excavations so far, are but mere scratches; our reduction works mere trials and tests on the pigmy scale. Our locality, monstrous difficulties and wants, are entirely misunderstood and neglected at home, and even here. This leads to badly equipped enterprises, delay, and disappointment. The failures are attributed to the country and the mines, when in reality they are owing to want of knowledge of mining.

Hoping that this may prove interesting to some of your readers, and that where I am mistaken I may be pardoned—having but few notes here for reference— I remain, &c.

H. E. I